

# NUCLEAR DIVISION NEWS



A Newspaper for Employees of the Nuclear Division, Union Carbide Corporation

Vol. 2 — No. 15

Thursday, August 12, 1971



**TRAINING FUND APPROVED**—A \$1.172 million dollar program has been announced to train unemployed and underemployed in the state of Kentucky by Governor Louie B. Nunn. The grant was announced recently in Atlanta. Seen at the announcement are, from left, Bill Penry, FIT program training coordinator at Paducah, Robert A. Winkel, superintendent of the Paducah Gaseous Diffusion Plant, Governor Nunn, William Norwood, head of the Department of Labor, Atlanta Region; and John Clarke, manager of relations and utilities, General Electric Appliance Park, Louisville. The idea of the program sprang from the FIT program at the Paducah plant.

## FIT Program Inspires Training Project

A \$1,172,000 program which will provide funds during the next 21 months to train unemployed and underemployed in Kentucky has been announced by Governor Louie B. Nunn, of Kentucky. The idea for the program came from the Functional Industrial Training (FIT) Project at the Paducah Gaseous Diffusion Plant, one of the few such programs conducted by industry for the disadvantaged in Kentucky. Robert A. Winkel, superintendent at the Paducah plant, was on hand for the recent ceremonies announcing the program.

Several industrialists were present when Governor Nunn and William Norwood, head of the Department of Labor for the Atlanta Region, officially signed the \$1.172 million contract. Norwood said he felt the Kentucky program would be one of the better in the nation because of its distinct recognition of problems that must be solved to provide ample opportunity for all.

Particular emphasis will be placed on providing training for returning veterans who do not have suitable skills for employment in industry. Many of those returning to Kentucky need training and assistance in obtaining career employment. This program will provide another of the continuing efforts to ensure returning servicemen the opportunity to return to a productive civilian life.

The grant, provided by the U.S. Department of Labor, is the largest one made in the Southern States and is the first direct funding to be received by Kentucky to assist in upgrading employment and eliminating institutional barriers for the training and subsequent employment of the disadvantaged.

Jobs Now, Inc., Louisville, will

provide orientation, counseling, and other supportive services for the trainees. Jobs Now was selected for this \$500,000 subcontract due to their past results in working with the employment of disadvantaged in Louisville. Other groups working with the program include the Vocational Schools, the Louisville Kent School, Eastern Kentucky University School of Law Enforcement and Kentucky State College.

The Kentucky Public Service Careers Program is designed to provide career employment in Kentucky Government for unemployed and underemployed individuals in Kentucky; to eliminate

institutional barriers which presently obstruct the permanent employment of the disadvantaged in State Government; to provide upgrading opportunities to present employees whose promotion has been hindered by educational or other deficiencies beyond their control; and to provide a model for Kentucky Government's ongoing commitment to eliminate institutional barriers obstructing the employment of the disadvantaged in the Commonwealth of Kentucky.

Recruitment for the program began last month and trainees will begin the program early this fall.

## Sales of Uranium During July Scores \$19 Million High

More than \$19.2 million in Toll Enrichment sales — an all-time high—was recorded at the Oak Ridge Gaseous Diffusion Plant during July. The amount surpassed by about \$6 million the previous high, recorded in January, 1971.

During July, approximately 370,000 pounds of enriched uranium were shipped for use in nuclear reactors in West Germany, and in the states of Florida, Maryland, Michigan, New Jersey, New York, Pennsylvania and South Carolina.

Toll enrichment was instituted on January 1, 1969. Under this program, privately-licensed owners bring their uranium to a gaseous diffusion plant for enriching on a toll basis. Customers are charged for the services required to separate from natural uranium the desired percentage of the uranium-235 isotope, usually between two and three percent.

## Indian Statistical Institute Director Gives Math Talk

C. R. Rao, director of the Indian Statistical Institute in New Delhi, visited ORNL this week and presented a seminar sponsored by the Mathematics Division and the ORNL-NSF Environmental Program on the subject, "Statistics in Research and Decision Making."

Rao, through interest in his country's internal affairs, has served under Prime Minister Indira Gandhi as chairman of the Demographic and Communication Action Research Committee, studying population problems. He has also conducted extensive anthropometric studies on ancient Indian and African tribes.

He holds two doctorate degrees from Cambridge University and among the institutions awarding him an honorary doctorate is Leningrad University. He is a member of several professional societies which include the International Statistical Institute and the Royal Society of London.

## AEC's Silver Anniversary Observed by Dr. Seaborg

"The primary mission of the Atomic Energy Commission to develop and use atomic energy to improve the public welfare, to promote world peace and to assure the common defense and security has been a success," Chairman Glenn T. Seaborg said in a statement noting the 25th anniversary of the creation of the agency.

President Harry S. Truman signed the act creating the Commission on August 1, 1946.

Past and present AEC and other federal officials, nuclear scientists and special guests gathered at the U.S. State Department August 1, for an anniversary program and reception. Dr. Edward David, Science Advisor to the President, and Sen. John O. Pastore, Chairman of the Joint Committee on Atomic Energy, participated. Dr. Seaborg presented commemorative plaques to Senator Pastore, to former AEC Chairman David E. Lilienthal and Lewis L. Strauss and to Mrs. Gordon Dean, widow of former Chairman Gordon L. Dean. A plaque was sent to former Chairman John A. McCone.

### 20 Former Members

Commissioner James T. Ramey presented special plaques to two charter members of the Joint Committee still serving in that capacity, Rep. Chet Holifield who has alternated as Committee Chairman, and to Rep. Melvin Price, currently Vice Chairman of the Committee.

Commissioner Wilfrid E. Johnson presented a plaque to former Joint Committee Chairman Bourke Hickenlooper and Sterling Cole and to Mrs. Richard Lane, daughter of the late Brien McMahon who also served as Chairman. Commissioner Clarence E. Larson made a similar presentation to two former Committee Chairmen, Clinton P. Anderson and Carl T. Durham.

A special medal commemorating the anniversary was presented to President Truman at Independence, Mo.

"In everyday life there are direct and practical applications and benefits of atomic energy. It has become indispensable to medical research, to cancer research in particular. Its contributions to new techniques and the alleviation of suffering have been immeasurable.

"There is no question but the AEC has fulfilled its obligation to provide our nation's military forces with the nuclear armaments needed to assure the common defense and security.

### Power Needs Grow

"One of the most significant developments in the 25-year history of the Commission is using the enormous energy in the nucleus of the atom for heat to produce electricity to help meet the rapidly growing needs of all peoples of the world. Nuclear power reactors, which were only laboratory experiments 25 years ago, are today producing nine million kilowatts of economical, clean electrical power in our country," Dr. Seaborg said.

### Power Needs Increase

"In the next quarter century, nuclear power will make up 50 percent of the country's total generating capacity. In a world where power needs increase at an astonishing rate and where fuel resources, uranium included, are dwindling rapidly, the AEC is developing breeder reactors that will actually produce more fuel than they consume. On a longer range basis, we are working on fusion reactors that will burn sea water for fuel. Both concepts combine to assure that power needs will be met for thousands of years to come."



**BETWEEN WORKSHOPS**—Libby Snyder, the Nuclear Division's "Carbide Scholar" enjoys a brief break after a Capitol Hill luncheon. With Miss Snyder is Jerry C. Kenney, representative of Union Carbide in Washington. Among the dignitaries the high school students met and talked with during the 12-day work-and-study sessions were John A. Volpe, secretary of transportation; Dr. Glenn T. Seaborg, chairman of the Atomic Energy Commission, and many senators and congressmen. Miss Snyder's own impressions of the Workshop are seen on page eight.



# Six Nuclear Division Secretaries Earn Coveted CPS Rating

Seven Oak Ridge secretaries and three from the Paducah area have been notified that they have successfully passed the hurdles to become Certified Professional Secretaries. Three of the Oak Ridge area secretaries are employed at Union Carbide... Jane P. Patterson, Oak Ridge National Laboratory; Louise D. Rogers, Y-12; and Georgia Anderson, Oak Ridge Gaseous Diffusion Plant.

All three of the Paducah area secretaries are employed at the Paducah plant. (A total of 19 secretaries took the grueling exam in that area, only three passing!)

## Three from Paducah

From Paducah, it was announced that Ardyce Ballard, Betty Green and Mary Ellen Pfof were added to the select group of CPS's in the Nuclear Division. The Paducah secretaries were

honored at a luncheon July 30, with special guests William Moore, deputy commissioner of personnel for the State of Kentucky and Hazel Finley, president of the Paducah-Kentucky Lake Chapter of NSA, International.

Lavon Pease, CPS, acted as mistress of ceremonies and R. A. Winkel, plant superintendent, presented the group with certificates of achievement commemorating the event. Winkel read congratulatory telegrams from Roger F. Hibbs, president of the division, and Paul R. Vanstrum, vice president for production. A copy of the wires was presented each new CPS. Winkel commended the three secretaries for their hard work, commenting that he hoped their accomplishment would serve as an inspiration for other secretaries.

CPS certificates are to be presented all six of the UCC secretaries at seminars scheduled for early September.

Other Oak Ridge area secretaries attaining the rating were Ruth Ann Goodwin, on leave from ORNL; Catherine Johnson, secretary to the chief of police in Oak Ridge; Marcia Kirkpatrick, a former Y-12er, and Martha Lyle, secretary to Winkles and McNabb, attorneys.

## Georgia Anderson

Georgia Anderson came to the Oak Ridge Gaseous Diffusion Plant in May of 1952. Prior to that time she worked with Bowers in Knoxville, and Radio Station WLIL, Lenoir City. She lives at Route 4, Paris Drive, Lenoir City, with her husband Ray, an employee at The University of Tennessee, Knoxville; and her daughter, Joyeuse. She also has a married daughter Nikki Bell, in Knoxville, and a granddaughter Joy.

In her spare time she attends school, refinishes antique furniture, works in ceramics, collects coins, knits and crochets and is an ardent rockhound.

## Ardyce Ballard

Ardyce Ballard has been employed at Union Carbide for 15 years and is secretary to L. A. Dena, Mechanical Shops and Process Maintenance. A graduate of Napa, Calif., high school, she has completed a Professional Women's Development Course at Paducah Community College. She is a member of the Paducah-Kentucky Lake Chapter of the NSA and has served on the Future Secretaries Committee. She lives with her husband, Melvin and sons Dana and Todd in Mayfield, where she attends the Highpoint Baptist Church. She enjoys sewing, swimming, water skiing, gardening and Little League baseball.

## Betty Green

Betty Green, a 12-year employee with Union Carbide, is secretary to Ed Cothron, Special Projects section of the Maintenance Engineering Department. After graduating from Murray High School, she attended Paducah Community College and Draughon's Business College. She is a charter member of the local NSA and has held offices and committee chairmanships in the organization. A member of Reidland Baptist Church, she resides there with her husband, W. T. Green. They have a son, Billy. Her hobbies include boating, water skiing and reading.

## Jane P. Patterson

Jane Penn Patterson, Neutron Physics Division, Oak Ridge Na-

tional Laboratory, joined Union Carbide in 1960. She is secretary at the Tower Shielding Facility and for Frances Perey's group.

A graduate of Knoxville Business College, she also attended Mississippi State University and The University of Tennessee.

Mrs. Patterson and her husband, Harrell E. (in Metal Preparations in Y-12), live at 105 Townsend Road, Oak Ridge. She says her

hobbies have suffered for the past two years or more because of secretarial studies but does admit to being an ardent bridge player and reader.

## Mary Ellen Pfof

Mary Ellen Pfof has been at Union Carbide the past 16 years and is secretary to V. G. Katzel and W. R. Golliher, Analytical

(Continued on Page 8)



Georgia Anderson, ORGDP



Ardyce Ballard, Paducah



Betty Green, Paducah



Jane P. Patterson, ORNL



Mary Ellen Pfof, Paducah



Louise D. Rogers, Y-12



## More Than 100 Companies Now Produce Radioisotopes

Private industry has established more than 100 firms for the production and processing of radioisotopes since the Government made the first commercial shipment exactly 25 years ago, Dr. Glenn T. Seaborg, Chairman of the Atomic Energy Commission, has reported.

The Nation's first "civilian" shipment of reactor produced radioisotopes — one millicurie of Carbon-14 destined for cancer research—went from the Government's Clinton Laboratories in Oak Ridge to Barnard Free Skin and Cancer Hospital in St. Louis on August 2, 1946.

### Utilized in Space

The St. Louis shipment was the first to be cleared among a backlog of orders for radioisotopes for such early research projects as absorption of soil nutrients by plants, vulcanization and polymerization of rubber and utilization of foods by animals.

Applications have broadened in the past quarter-century to numerous uses in the fields of agriculture, industry, medicine, environment-ecology and space technology. The plutonium radioisotope was used to fuel heaters placed on the moon by Apollo 11 astronauts during the initial moon landing to protect scientific instruments from ultra cold temperatures of the lunar night, and in Apollo flights since to fuel atomic batteries (radioisotope thermoelectric generators) which power experiments left on the moon and which are still sending data to earth. Plutonium has also been selected to fuel a totally implantable artificial heart now under study by AEC.

Synthesis of composites of plastics and solid waste materials such as glass, paper and furnace ash by irradiation with cobalt to produce a durable new building material is under study. The technology was developed earlier with wood-plastic and concrete-plastic combinations.

### Increased Applications

Nuclear reactors, established for defense needs during World War II, made it possible to have radioisotopes in abundance and at comparatively small cost when hostilities ceased, Chairman Seaborg said. The St. Louis shipment weighed only about three milligrams but represented nearly 1000 times as much as previously available for research in any single order of cyclotron-produced Carbon-14. Current production capacity is millions of times greater.

"The efforts of industry, the medical profession, scientists and Government laboratories to develop new nuclear techniques have indeed been substantial," Dr. Seaborg said. "Applications have increased until today they are almost commonplace in hospitals,

industrial plants and research establishments around the world."

Some 5000 U.S. hospitals now use radioisotopes and about 2500 physicians are licensed to use radioisotopes in private clinics. The annual market for nuclear medicine and associated equipment totals close to \$70 million. In the U.S. alone, radioisotopes are used in approximately eight million individual diagnostic and therapeutic treatments a year.

### \$85 Million Sales

Sales by the 100 isotope-producing firms organized since 1946 now total about \$86 million a year, Dr. Seaborg said. In addition, about 45 firms produce equipment employing radiation sources.

The Atomic Energy Commission, initially the sole supplier, has now turned over to private industry the production and distribution of 65 different radioisotopes, including 28 items last month. AEC policy requires withdrawal from production as soon as private industry demonstrates it can serve the market on a competitive basis. Compared to its virtual monopoly at the end of World War II, AEC now distributes only about 50 radioisotopes.

## Biology's Shugart New AIC Fellow

Lee R. Shugart (Biology Division) has been elected a Fellow of the American Institute of Chemists. The announcement was made recently by the Institute's president, David W. Young.



Shugart

The American Institute of Chemists is the only chemically oriented American organization whose principal purpose is to develop the professional and economic status of chemists and chemical engineers. Membership is limited to those whose principal education is in this field.

Shugart is a biochemist whose principal research is in enzymatic mechanisms of protein synthesis. He joined the Biology staff in 1967 after being affiliated with the division as a post-doctoral investigator with the National Institutes of Health.

Shugart received the bachelor's degree in chemistry from East Tennessee State University, the master's degree in chemistry at The University of Tennessee and the doctorate in microbiology from U-T.



## Dr. Holland Honored As ABPM 'Diplomat'

Dr. R. W. Holland (Health Division) has been admitted as a Diplomat to the American Board of Preventive Medicine in Occupational Medicine. Dr. Holland is one of three to be so honored in Oak Ridge, the other two being Dr. T. A. Lincoln, director of the division, and Dr. G. F. Zanolli, assistant medical director.

To qualify for the rank of Diplomat in ABPM, a doctor must either undergo formal training or spend 10 years in fulltime practice at an acceptable location, have a paper published in a nationally distributed journal, and pass a two-day examination. Dr. Holland has been with the ORNL Health Division since 1961. He is a graduate of the U-T Medical School. The Board has two other branches, Public Health and Aerospace.

Dr. Holland, who made news recently in his "Good Samaritan" emergency attention to victims at the scene of a traffic accident in Oak Ridge, completed his qualifications by publishing an article on "Planning for Radiation Accident" in *Nuclear Safety*, and by passing a gruelling two-day examination given by the Board in Atlanta last spring.

## WANTED



RIDE from Alcoa to East Portal, 8 a.m. Carolyn Lewis, 3-1493 or 984-4288.

RIDERS from Powell area (Emory Road section) to East, West or 7000 area, 8 a.m. F. A. Medley, 3-6430 or 947-7184.

RIDE from Trails West subdivision (behind Bearden High School) to East or South Portal. Cindy Shelton, 3-6641 or 687-9654.

RIDERS from Walker Springs Road or Cedar Bluff to North or West Portal, 8:15 a.m. Jackie Sims, 3-1961 or 588-7569.

RIDE from Northshore Drive-Rocky Hill area to East or South Portal. Marty Goolsby, 3-6421 or 546-8436.

JOIN CAR POOL from Crestwood Hills subdivision (Shawn Drive, Suburban Hills or Green Valley to East portal, arriving 8:15 a.m. E. L. Fair, 3-6775 or 588-8828.

## Recent Graduations

ORNL employees receiving degrees in recent graduations are: Kenneth R. Isham (Biology Division), M.S. in microbiology from The University of Tennessee.

Richard E. Toya Sr. (Biology Division), M.S. in microbiology from The University of Tennessee.

Joseph K. Millard (Instrumentation and Controls Division), Ph.D. in electrical engineering from The University of Tennessee.

James O. Stiegler (Metals and Ceramics Division), Ph.D. in metallurgical engineering from The University of Tennessee.

## Oak Ridge National Laboratory

ORNL Editor . . . . . Martha Goolsby  
extension 3-6421



DONALD F. ANFINSON, right, General Engineering Division, receives certificate from his division director, Myer Bender, center, and Jim Barker, Associate Director of Personnel Division. Anfinson is a three-year veteran of the Technician Development Program. He is the first participant to complete the entire mathematics offerings from Algebra I through Calculus and top it off with College Physics.

## Fifty-two Receive Certificates For Tech Development Course

Fifty-two employees recently received certificates for successful completion of a year's work in the Technician Development Program.

The program, begun in 1968, is designed to refine and enhance the knowledge and skills of support personnel. In recognizing that continuing growth on the technician level is a requirement of advancing technology, a program was begun to meet the needs of ORNL technicians in four areas—mathematics, metallurgy, chemistry and physics. In mathematics a full range of courses from beginning algebra through beginning calculus is offered.

The technician spends one-two hours a week in classroom sessions. The rest of the time required for successful completion of the course is the employee's responsibility.

During the three years in which the program has been offered, 201 certificates have been awarded. This represents approximately 150 employees since some have taken several courses in the program. Participants have come from 17 different divisions.

Impelling reasons for taking the course range from needing the increased education for satisfactory work performance to feeling dissatisfaction with lack of personal progress.

The 1971-72 classes will begin in early October. If interested in any of these technician-level courses, call Personnel Development Department, 3-6801.

## Company Service

ORNL employees reaching 20 and 25 years of company service during August are:

### 25 YEARS

Claude B. Adderholt, Lorne T. Newman, Millard L. Myers, Evelyn McBee, Walter J. Stelzman, Howard T. Enix, Billy F. Early, Robert F. Myrick Jr., Charles L. Segaser, Cecil E. Higgins, Lewis A. Byrd, Denton C. Gary, Mansel E. Ramsey, Nette Crowe, Hubert G. Overton, Ken E. Jamison, Hubert A. Parker, William S. Hornbaker, and James L. English.

### 20 YEARS

Edwin D. Gupton, Alan F. Gilen, Guy F. Petersen, Thomas A. Lincoln, L. Dow Odom Jr., Samuel A. McCosh, Clyde L. Moore, Raymond D. Ellison, Raymond E. Druschel, Kyle F. Stooksbury, Frances H. Loving, R. Ellis Hill, Carl Jones, Marvin M. Yarosh, Forrest F. Blankenship, Wimmer J. Leonard, Frank S. Rempala, William C. Colwell Jr., Robert M. Freestone Jr., Vaughn W. Ownby, Charles R. McAmis, Willard R. Huntley, and Bob Affel.

## Recent Patents at ORNL

ORNL employees have recently received these patents:

Raymond K. Adams and John T. Hutton for an "Analytical Photometer-to-Digital Computer Interfacing System for Real Time Data Reduction."

Norman G. Anderson for a "Multistation Photometric Analyzer."

Herbert E. McCoy for a "Nickel-Base Alloy."

James M. Leitnaker, Ronald L. Beatty and Karl J. Notz for a "Method for Preparation of Carbonitride Nuclear Fuel Materials."

Kurt A. Kraus, James S. Johnson, Joseph J. Perona and Justus N. Baird for a "Filtration Method of Separating Liquids from Extraneous Materials."

Warren R. Grimes, James H. Shaffer and David M. Moulton for a "Method for Separating Uranium, Protactinium, and Rare Earth Fission Products from Spent Molten Fluoride Salt Reactor Fuels."



BUILDING 1000 has had a face lift. To continue usage of ORNL's Engineering Building, a wooden structure built in 1943 to house administrative functions of Clinton Laboratories, both interior and exterior refurbishing were needed. An improvement effort began in FY 1966 and continued project by project until recent completion. The improvements have given the old building a new life, have made the space far more usable and have drastically reduced the maintenance required in years to come.



# Oak Ridge Y-12 Plant

Y-12 Plant Editor . . . . . James A. Young  
extension 3-7100

## Criticality Safety Papers Set at Meet by 2 Y-12ers



W. T. Mee J. T. Thomas

Two Y-12ers will present reports to the Third International Symposium on Packaging and Transportation of Radioactive Materials in Richland, Wash., August 16-20.

Joseph T. Thomas, Criticality Studies, will present a paper entitled "Application of Fissile Material Storage Limits to Criticality Safety Analysis in Transport." William T. Mee, Radiation Safety, will discuss "Methods Used to Calculate Package Criticality Safety."

Information on these papers was developed in support of U.S. Atomic Energy Commission programs here.

## Darrell Johnson's Son Cocoa High Honor Grad

Jeffrey D. Johnson, son of Darrell Johnson, Y-12's Production Analysis, is a recent honor graduate from Cocoa (Fla.) High School.

Jeffrey was president of the local National Honor Society, treasurer of Mu Alpha Theta, was senior class senator, and was chosen outstanding senate member of student government. He was a member of the Key Club, Drama Club, Inter-Club Council, and the annual staff. A National Merit Scholarship finalist, Jeffrey was voted by his peers as the Most Intelligent and one of the ten outstanding seniors.

He plans to enter The University of Tennessee this fall to study architecture.



**Ride wanted from Dixie Lee Junction to Central or West Portal, straight day.** L. E. Carey, plant phone 3-7763, home phone Knoxville 584-9687.

**Riders wanted from South Harri-man to any portal, straight day.** Charles Wills, home phone Harri-man 882-3957.

**Riders wanted from Kingston Woods, Deane Hill, Suburban Hills, Crestwood, Cedar Bluff, Gulf Park, Belmont West sections, Knoxville, to any portal, straight day.** Jim George, plant phone 3-7277, home phone Knoxville 588-6474.

**Ride wanted from 135 Wainwright Road, Oak Ridge, to Bear Creek Portal, H Shift.** W. C. Newson, plant phone 3-7379, home phone Oak Ridge 483-0706.

## Car Accident Fatal To Y-12's Littlejohn

An auto accident on July 23 claimed the life of a young Y-12er on his way to work. H. Melvin Littlejohn, a native of Knox County, came here in February of 1970, after graduating from the Training and Technology Project.



**H. Littlejohn** was a veteran of the U.S. Army, serving from 1964 until 1966. Mr. Littlejohn was in Y-12's Alpha Five Assembly Area. The Littlejohn home is at 2750 Louise Avenue, Knoxville, where his wife Jacqueline survives, along with four children, Vaughn, William, Timothy and Consuela; his mother, Mrs. Etolia Littlejohn; a sister, Frances; and four brothers, Roman, Otis, Dennis and George, all of Knoxville.

Funeral services were held at the Payne Avenue Baptist Church, with interment in the National Cemetery in Knoxville.

## Plemons Daughter Gains State's Twirling Honors

Debbie Plemons, daughter of Charles Plemons, Machine Inspection Department in Y-12, won 11 trophies recently in the Drum Majorettes of America State Contest in Rogersville. Included in the honors was the Tennessee State Twirl-off Championship trophy.

Miss Plemons, a sixth grader at Loudon Junior High School, has been working toward winning the state championship for several years.

The junior miss has won other honors in fancy strutting, military strutting, advance twirling, advance fancy strutting, duet strutting and advance military strutting.

She is the granddaughter of Alvin Kerley, Y-12's Chemical Services and Ruby Kerley, ORG-DP's Central Reproduction.



Debbie Plemons



**HIGHEST ACCOLADES**—The Y-12 Plant was recently awarded the highest honors attainable from the Atomic Energy Commission, the National Safety Council, and the corporation. At left, Jack M. Case, plant superintendent, presents the plaques to the labor representatives in the plant, B. W. Hensley, President of the Atomic Trades and Labor Council (with the Union Carbide Distinguished Safety Performance award); Norman A. O'Neal, Vice President of ATLC (with the NSC's Award of Honor); and C. R. Lively, Vice President of Local Three, International Guards Union of America (with the AEC's Award of Honor); and Clarence Johnson, head of Y-12's Safety Department. The high honor plaques will be shown throughout the entire plant this month.

## Company Service 20-25-30

Congratulations to scores of Y-12ers, marking important dates with Union Carbide Corporation during August.

### 25 YEARS

Lester Day Hayes, William L. Sharp, J. D. Robertson, Jr., William J. Mackley, Frank Morgan, Jerry A. George.

### 20 YEARS

Philip J. Breman, James C. Owens, Paschall S. Greene, Carl I. Keylon, Mac H. Stickland, Inman M. McPeters, Leroy Holbert, Jr., Thelmer C. Stephens, Carl C. Bowman, Howard Loveday, Kenneth P. Emert, William H. Sherrod, Donald J. Schafer, George S. Easley, Robert S. Hopper, John B. Shepard, Grady W. Chancey, Bobby E. Lunsford, Edward C. Hightower, Virginia G. Scarbrough, Billy J. Littleton, Harry A. Tobe, James A. Woods, George T. McMahon, James A. Burns, Donald H. Allen, John H. Marquiss, William C. Dietrich, Hal S. Bartless, John F. Chamblee, Elwood A. Powell, Lewis L. Gasaway, Henderson P. Smith, Louie E. Idom, Ray E. Hester, James W. Mitts, Melvin L. Chandler, Ray N. Stewart, Chester Spradlin, Kenneth E. Prater, Fred L. Alexander, John M. Ball, Leonard Nation, Jack H. Pebley, William H. Hubbs, Jack D. Bounds, Glenn H. Kindred, Howard J. Hicks, Sr., Robert H. McNabb.

## SAFETY SCOREBOARD

The Y-12 Plant Has Operated  
26 Days Or  
943,000 Man-hours  
(Unofficial Estimate)  
Through August 8  
Without A Disabling Injury  
SAFETY AT HOME,  
AT WORK, AT PLAY

## Y-12's '70 Safety Performance Brings Highest Triple Awards

Y-12's safety performance for the calendar year 1970 has brought employees the highest accolades the National Safety Council, the Atomic Energy Commission, and Union Carbide Corporation, can award.

From December 30, 1969 until September 20, 1970, the plant accumulated more than 8 million man-hours without a lost-time injury.

From the National Safety Council came the Award of Honor, given for more than three million man-hours worked without a disabling injury, or the award may be given if the record covers an entire calendar year.

The AEC's Award of Honor is

## Long Illness Claims C.G. Hubbard Here

Cecil G. Hubbard, Research Services, died January 24, after a lengthy illness. He lived at Blue Bell Lane, Karns.

Mr. Hubbard came to Y-12 May 1, 1944. He was a native of Durant, Okla., and was active in the Shriners.



**C. G. Hubbard** Survivors include his wife, Mrs. Mayo Greene Hubbard; daughters, Mary Hubbard, New Albany, Miss.; Anna Ament, Miami, Fla.; and Nancy King, Tupelo, Miss.; sister, Mrs. Everett Hawthorne, New Albany, Miss.; brothers, M. R. Hubbard, Albany, Okla.; and R. A. Hubbard, Oak Ridge.

Services at the graveside at the Oak Ridge Memorial Park were held by the Reverend A. H. Gouch of the Mt. Paran Baptist Church. The family requested that any memorials be in the form of gifts to the American Cancer Society.

for the prevention of disabling injuries, without outstandingly effective results, for a continuous period of not less than 30 days, with an accumulation of more than seven million man-hours without a lost-time accident.

The Corporation's Award for Distinguished Safety Performance recognizes a record of four million or more hours worked without a disabling injury, or a full calendar year of outstanding safety performances.

Oak Ridge National Laboratory and Oak Ridge Gaseous Diffusion Plant shared in the awards, helping to make the Nuclear Division the possessor of the best safety record in the entire corporation.

Stressing that these striking statistics can only be accomplished by concerted cooperative efforts of every employee, Y-12's management accepted the awards in the name of each individual employee in the plant.

The handsome plaques are being circulated throughout the plant for everyone to see.

## Leg Infection Is Charged As Y-12 Lost-Time Cause

An infected leg has marred Y-12's safety record, breaking a long streak of accident-free days. A rigger in the maintenance department fell through some grillwork on July 13, and later picked up infection which required hospitalization.

The injury broke the safety record at approximately 169 days for an estimated 6,339,000 hours.

It was the first lost-time accident in the Maintenance Division in more than three years.

## LOST AND FOUND

**Lost:** New Testament in plant. Name imprinted: "Bob Robinson." For information concerning lost and found items, contact Guard Headquarters, plant telephone 3-7272.



## 'To Serve' Is Salvation Army Motto

(EDITOR'S NOTE: Soon all Union Carbide-Nuclear Division employees will be engrossed in another United Fund Drive. A fellow employee in the Paducah Plant has described a typical action by one of the great agencies in the United Fund . . . the Salvation Army.)

By C. O. Hayes

The Major had an appointment at the courthouse to plead the cause of a couple whose children had been taken from them.

Coming out of the court room, one of the parole officers was waiting for the Major to ask him if the Salvation Army would give a parolee a place to live until he could draw his first pay. The Major agreed. He was asked to visit the office of the parole board when another case was brought to his attention regarding a man in prison who had been eligible for parole since April, but couldn't find a job. The Major agreed to check on this and promised to be back in touch with the parole officers.

Coming back to the Citadel, the Salvation Army playground was in full operation with lots of black and white children playing together under the supervision of

Mrs. Weatherspoon and Mrs. Ramsey. The secretary, Miss Cooper, had several family relief cases to review with the Major. It was agreed to give one family some requested furniture, to grant another family \$25 to help in an emergency, and deliver a box of groceries to a family that was disabled. Before the day was over, another family with a disability was granted a \$10 grocery order. Hospital visits were now to be made and then preparations for the night's preaching service.

Before the service began, a man needing a place to stay came in requesting lodging. Later that night the police called and had a family of six persons needing lodgings, and we were able to take care of the situation.

## Butterfly's Wings AEC Study Boon

The brilliant blue butterfly's wings are not blue, you see. And the brown butterfly's wings that turn a shiny purple when you look at them in a certain way aren't even brown.

Such information may not sound startling, nor relevant to atomic energy research. But to Wayne Steele, of the AEC's Lawrence Radiation Laboratory, it is necessary.

One of Steele's responsibilities is to operate the Laboratory's electron microscope, an instrument capable of magnifying an object image to several hundred thousand times its original size. Since conventional light microscopes are inadequate for examining extremely small biological and metallurgical specimens, the electron microscope is an essential tool in this research.

Wayne Steele came into the picture because, in addition to working with the electron microscope, he is also a member of the Lepidoptera Society — a group which collects and studies butterflies. These dual interests came in handy when Steele started his

## What 'United Way' Means to Me

By F. P. Smith

Paducah in the past has been known as a city of tight money. But not so when needs of the disadvantaged and the unfortunate people are known.

Goals for the united appeal are created from studies of the needs of food, clothing and shelter so that all people everywhere might live in relative comfort year after year.

We at the Paducah plant have demonstrated in the past that when needs, not only for the disadvantaged, but for making of a better community arise, we have responded with heartfelt contributions which have benefited everyone.

"D" Shift has responded well in the past, and the P & U Department where I work had an overall response of 95% participation last year, which is only a part of the overall plant effort. Contributions from each of us in a united way make for a strong arm in helping others.



Smith

work with the electron microscope. Trying to find a way to focus the extremely thin electron beam of the scope he found no manmade grid fine enough for the task. This dilemma started him thinking about the delicate structure of the butterfly's wing, especially the blue *Hungarian Apaturia* and the brown *Papilio Ulysses* which are totally colorless — no pigment in their wings. They just look colorful because the incredibly delicate structure of their wings actually breaks light rays up and bounces back just that part of the light spectrum that makes them look blue, brown, or purple.

Knowing this information about butterflies, Steele pulled a few out of his collection, placed them under the electron beam, and found that the wing structure of the brown and iridescent-purple butterfly served as an excellent alignment grid for the powerful electron microscope.

## Paducah Gaseous Diffusion Plant

Paducah Editor . . . . . Keith Bryant  
extension 369



**COLONELS AND DUKES NOW**—Bobby Abell, president, and John Nicol, drum major, both members of the Rispah Shrine Oriental Band have been presented commissions as Kentucky Colonels and Duke of Paducah certificates for their dedicated work with Shriners.

## Abell and Nicol Earn 'Colonel' Titles And 'Duke' Status for Shriner Work

Two Carbiders at Paducah are now Colonels and Dukes. Bobby Abell and John Nicol were recently presented commissions as Kentucky Colonels and Mayor Robert C. Cherry gave them "Duke of Paducah" awards.

The commissions from the governor were in recognition of outstanding devotion, loyalty and work to further the ideals of the Shrine organization, and its work in support of hospitals for crippled children, especially the renowned "burn" hospital in Galveston, Tex.

Abell and Nicol are members of the Rispah Shrine Oriental Band. The local unit is one of the oldest and most dedicated of the organization. Abell is president of the band and Nicol is drum major.

In the words of Past Imperial Potentate O. Carlyle Brook, "Within the pages of the official history of this noble fraternity you will find its story of fun, frolic and the charity which now becomes its heritage — the happiness of Shriners for almost one hundred years as they have created their own image in a manner so differ-

ent than any other; the color and frolic of their parades and conventions; and the charities which had their beginnings so many years ago, then developed into the Shriners Hospitals for Crippled Children, and to which now has been added the Shriners 'Institute for Burns.'" The 48-year-old children's hospital program gives free medical treatment to children of all creeds and races.

### WANTED

Rides Car Pools

Ride wanted or will join car pool from vicinity of 28th Street and Kentucky Avenue, straight day. Dot Scanlon, 324 (Bell), 675 (Pax), Pauline Potts, 316 (Pax).

### PAGING PADUCAH BOWLERS

Calling all Paducah Plant bowlers. League action will get underway in September. Employees not participating in league play, but wishing to, should contact Leroy Hall, PAX 784.

## United Appeal Is Started Here

**Count-Compare and Share Your Blessings** will be the slogan for the 1971 United Appeal Drive at the Paducah Plant. Slated to start on September 20, the preliminary organizational work has already begun. Gus Legeay will be Chairman of this year's campaign and his Co-Chairman will be H. E. Anderson, President of OCAW, AFL-CIO, Local 3-550; J. O. Dobson, President of UPGWA, Local 111, who was absent when the picture was taken; and Joe White of Industrial Relations. Others in the picture are some who will serve on the various committees.

The United Appeal is the only fund raising drive conducted in the Paducah Plant, and is entered into with great enthusiasm and dedication. Visits to the agencies who benefit have convinced the employees of the need, importance and usefulness of the work being done.

4 083 1



**AN EARLY START**—Preliminary organizational work has already begun on this year's United Appeal Drive in Paducah, the only fund raising project conducted in the plant during the entire year. Gus Legeay will be chairman of this year's drive, and H. E. Anderson, President of OCAW, AFL-CIO, Local 3-550, will be his co-chairman.

Rosenthal

the CHOMICAL world of



"Beverly tells me you're in chemistry."



# Oak Ridge Gaseous Diffusion Plant

ORGDP Editor . . . . . Harold Mayberry  
extension 3-3017



John W. Arendt

## Lab Notes

John W. Arendt has been elected as a member of the Executive Committee for the Institute of Nuclear Materials Management. He was notified of his election at the Twelfth Annual Meeting of the Institute of Nuclear Materials Management which was held at Palm Beach Shores, Fla., June 29 through July 1, 1971.

Arendt has been with Union Carbide since 1945 and is presently superintendent of Physical Measurements, Inspection and Nuclear Technology in the Laboratory Division at ORGDP. In addition to his activities as a consultant on problems in nuclear materials management, he is a Certified Nuclear Materials Manager and has made significant contributions in the field of Nuclear Materials Management. He is now serving as Chairman of the ANSI N14.8 Committee which recently prepared a standard (ANSI N14.1), "Packaging of Uranium Hexafluoride for Transport." He is also the INMM representative to the ANSI N18 standards committee.

Arendt is a member of the American Nuclear Society, American Management Association, American Ordnance Association and Institute of Nuclear Materials Management. His activities away from the job include: member of the Tennessee Board of Directors for the American Cancer Society, sports, and participation in civic, church, and fraternal affairs.

## Quotes From Notes From Our Retirees

### From Our Retirees

"Wanted everyone to know that I got my puppy (a retirement gift from her co-workers) and he is a honey. Sorry I don't as yet have any baby pictures of him. Sure is fun sleeping late in the mornings."

Freida Dodge

A clever birth announcement accompanied the note; it reads—  
Announcing the Arrival of a Bouncing Boxer Boy Puppy (brindle/white)

Name—Carbide's Beau Geste of Dyllis (AKC Registered Name), call name Bo.

Date—July 16, 1971 (Born June 5, 1971).

Weight—7 lbs., 8 oz.

Parents—John & Freida Dodge.  
Godparents—All ex-co-workers.

## Park, Vance Write CE Progress Article

J. E. Park, Applied Science Department, Computing Technology Center, and J. M. Vance, Thermal Systems Development Department, Gaseous Diffusion Development Division, are the authors of an article "Computer Model of Crossflow Towers" in the July issue of Chemical Engineering Progress.

The summary of the Park-Vance article reads:

The application of the digital computer in determining the number of tower cells required for a cooling application, and for reducing and interpreting test data for crossflow towers in existence and the fast growing interest in cooling towers as a means of reducing thermal pollution of rivers and lakes, such a capability should be of interest to the engineer.

## Veteran Cleo Lowe Has Heart Attack

Cleo Lowe, 52, a truck driver in the Grounds Department, Fabrication and Maintenance Division, died suddenly on Wednesday, July 28 while here in the plant. He had suffered a heart attack in early 1965. He had worked here since January, 1945 and before that time he had engaged in farming.

Lowe was born in Sevierville and lived in Sevier County until coming to Oak Ridge in 1945. He moved to Clinton on Old Oliver Springs Road shortly afterwards. Survivors include his wife, the former Mary Ailene Maner, a daughter, Mrs. James Williams of Clinton and a son, Carl Edward Lowe, also residing in Clinton.

### OPENINGS AVAILABLE FOR MALE BOWLERS

The Fall-Winter bowling season will start after Labor Day. Openings are available for individual male bowlers who want to join an existing team; also, we have room for more teams. We have two leagues, one bowls at 8 p.m. on Tuesdays, the other at 5:45 on Wednesdays. An organization meeting will be held in the K-1002 Auditorium at 2 p.m. on Wednesday, August 18. All interested bowlers are invited to attend this meeting.



Want to join car pool from Karns Community to Administration Area, 7:45 to 4:15. Glennis Harris, phone 3-3050, home 483-4603.

Ride wanted, riders, or will join car pool from East Knoxville to any portal, ORGDP, 7:45 to 4:15 shift. J. E. Miller, plant phone 3-3518, home phone 522-3205.



**SAFETY ACHIEVEMENT RECOGNITION**—ORGDP Superintendent Robert G. Jordan was recently presented three plaques in recognition of the plant working 4,101,645 hours between August 21, 1969, and June 10, 1970, without a single disabling injury. He met with the Company-Union Safety Advisory Committee and thanked them for their contributions toward this achievement. Seated, left to right, are R. K. King, L. W. Anderson and W. W. Smith. Standing are B. F. Shinn, Jordan, and E. C. Gaines. Another member of the Committee, B. G. Loftis, was not present for the picture. The awards are, from left, Union Carbide Corporation's "Distinguished Safety Performance," the AEC's "Award of Merit" and the National Safety Council's "Award of Merit."



**EAGLE-OF-YEAR** — J. T. Coffey, Computer Services, was recently awarded a trophy declaring him Tennessee Eagle of the Year. In addition to the trophy, he was awarded \$100 in cash. Coffey was chosen for his services rendered to the Eagles at the state and national levels.

## Tom E. Underwood Dies in Knoxville

Thomas E. Underwood, 60, Shift Operations and Security Division, died in Baptist Hospital in Knoxville on July 19, following a short illness. He had been employed here since May, 1944.

Underwood was born in Harriman and had lived in Oak Ridge since 1943. Immediate survivors

T. E. Underwood are his wife, Mrs. Erma Underwood and a son and daughter, Roger and Dian, at home at 125 West Washburn Circle and three married daughters; Mrs. Linda Grady of Fort Worth, Tex., Mrs. Sarah Hughes of Lafollette and Mrs. Barbara Smith of Bothell, Wash., also two sons Ronnie, employed at ORNL, and Baxter, an operator here at K-25.

## Boatwright and Hightower Share Top Medalist Honors at Cedar Hills Links

Alvin Boatwright and Wes Hightower shot 78's to share medalist honors in the fourth K-25 golf tournament of the season. Hightower had the low handicap score with a net 70.\*

Emerson Arnold had the best scratch score in the second division with an 81. Carroll Easler's net 74 was low in this division.

C. T. McLoughlin had the low scratch score in the third division, a 95. G. H. Luttrell had the best handicap score, a net 75.

\*This tournament was held at Cedar Hills Golf and Country Club at Lenoir City on July 31.

DIVISION I	
Front Nine	Back Nine
Wes Hightower 36	Wes Hightower 34
Joe Tuggle 37	L. H. Kahler 35
D. F. Bennett 38	A. J. Thompson 36
Henry Woods 38	Charles Henley 38
Charles Henley 38	C. F. Hale 39
Bob Lynn 39	Jim Mooney 39
W. J. Moore 39	W. J. Moore 39
C. F. Hale 40	L. C. Patrick 39
I. C. Patrick 40	W. T. Carter 40
A. Boatwright 40	W. A. Davis 40
Bill Fort 41	Bob Lynn 40
L. H. Kahler 41	Gene White 40
John Kirschler 41	Henry Woods 40
No. 1 Hole-In-One	
L. C. Patrick 7 ft. 4 in.	
D. F. Bennett 14 ft. 6 in.	

### HOURS CHANGE

K-25's Cashiers and Company Store office has recently revised the hours that they are open to serve employees. The new hours are from 9 a.m. to 3 p.m., Monday through Friday.



**ACHIEVEMENT AWARD**—J. T. Asbury recently completed the Helper Training Program and is now classified as a full-fledged machinist. Making the presentation are M. C. Martin, superintendent of the machine shops, and J. M. Ellis, right, superintendent of field maintenance.

DIVISION II	
Front Nine	Back Nine
C. H. Peterson 37	E. L. Arnold 33
E. L. Arnold 38	C. H. Easler 36
E. R. Brewster 38	Roy Quarles 38
C. H. Easler 38	G. A. Garrett 40
R. K. McGrath 38	A. F. Payne 40
W. M. Reynolds 39	W. M. Reynolds 40
G. A. Garrett 40	R. L. Campbell 41
D. Zimmerman 40	R. K. McGrath 41
Henry King 43	C. H. Peterson 41
G. W. Lay 43	E. R. Brewster 42
P. K. Sherrill 43	

No. 1 Hole-In-One	
D. H. Zimmerman 8 ft. 5 in.	
R. K. McGrath 11 ft. 11 in.	

No. 15 Hole-In-One	
W. M. Reynolds 3 ft. 9 in.	
E. R. Brewster 29 ft. 9 in.	

DIVISION III	
Front Nine	Back Nine
Lee Halstead 38	G. H. Luttrell 37
G. H. Luttrell 38	C. McLoughlin 38
S. H. Moore 40	Boyd Hartman 41
C. McLoughlin 41	C. L. Lawson 42
Dick Martin 41	J. D. Stout 42
Boyd Hartman 43	L. C. Wrights 42
L. C. Wrights 43	Dick Martin 42
John Davenport 44	Lee Halstead 43
C. L. Lawson 44	S. H. Moore 45
A. H. Rice 45	H. J. Mayberry 46
	A. H. Rice 46

No. 1 Hole-In-One	
Lee Halstead 15 ft. 6 in.	
Harold Mayberry 22 ft. 5 in.	

No. 15 Hole-In-One	
C. T. McLoughlin 26 ft. 8 in.	

## SAFETY SCOREBOARD

### ORGDP

Has Operated

1,272,000 Safe Hours

Through August 5

Since last disabling injury on May 4



## 'Civilized' Backache

## RUPTURED INTERVERTEBRAL DISC

Ruptured disc accounts for well over 25 percent of disabling industrial injuries. In addition, thousands who do little more than push pencils and answer telephones are disabled each year by seemingly trivial back strains at home.

The backbones are separated by 23 discs which in total thickness equal about 1/4 the total length of the vertebral column. In the lower back, they are about 1/2 to 3/4 of an inch thick.

Each disc has three distinct parts. On top and bottom is a cartilage plate which securely attaches the disc to the adjacent vertebral body. Between these two plates is a ring of fibrocartilagenous tissue, called the annulus or ring, which is shaped like a doughnut. In the center of the "doughnut" is nucleus pulposus, which is semi-gelatinous in consistency.

Since the nucleus is a fibro-gelatinous material, it obeys the physical laws of fluids. It is therefore incompressible. It is the elasticity of the ring which allows the disc to act as a cushion. The incompressibility of the center of the disc enables it to withstand and transmit the tremendous loads occasionally put on it by muscular action during lifting.

The crucial part of the disc is the ring. If it ruptures, the semi-gelatinous nucleus will escape through the break. The normal healthy disc in a young man can withstand pressures over 1400 pounds. In an older person it can withstand far less. Such a pressure can be generated when a person lifts a heavy object out in front of his body. The arms, trunk and object form the long arm of a lever which is balanced by the contraction of the deep muscles of the back. The short arm is the distance from the center of the disc to the center of the back bone where the muscles are attached. The fulcrum is the disc.

## Tremendous Forces Tolerated

It may surprise some people to learn that the annulus in young healthy men will remain intact under pressures which will break the top cartilage plate or even break the back bone itself.

One reason why the discs and the back can tolerate such tremendous forces is that the spinal column is attached to the sides and actually within two chambers. The upper chamber is the rib cage which holds the lungs and the lower is the abdomen which contains air, liquid and semisolid material. During a heavy lift, the abdominal muscles become tight, the breath is held, and the diaphragms contract. These airtight chambers, if they have firm muscle support, provide crucial bracing. It has been estimated that they reduce the load on the lumbar discs by 30 percent and the thoracic discs by 50 percent.

The water content of the nucleus varies considerably during the day, increasing while lying down and decreasing while sitting or standing. Some people can lose as much as 3/4 inch in height during the day due to this loss of fluid. The water content is usually highest about age 30 and then it gradually declines. Loss of water means loss of function and vulnerability to injury.

## Vulnerability Described

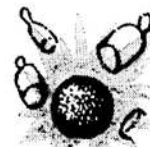
As a person gets older, there are varying degrees of degeneration which occur in the disc, particularly in the posterior part of the ring. As it ages, it gets weaker and may give way following a relatively mild strain. As it gives way, it first bulges but later ruptures through the ring and a supporting ligament. It extrudes into the spinal canal where it presses on one of the spinal nerves, most frequently the sciatic nerve, causing the back and leg pain of sciatica.

The person who appears to be vulnerable is the tall individual who is past 40, overweight, has poor trunk and abdominal muscle support, and attempts to lift or push something in an inefficient manner.

About 10 years ago, Dr. W. James Gardner of the Cleveland Clinic found to his amazement that in the only neuro-surgical clinic in the state of Yucatan, brain tumor was 50 times more common than ruptured discs. Backache and sciatica were almost unknown, even though heavy loads were



## SPORTS NOTES



## GOLF—Y-12

July's golf star in Y-12 was Gary Williams, who fired a one-under-par 71 to corner the market at Southwest Point on the lake. Tommy Smith and Dick Graham

were tied for top honors in the second flight, each scoring 78. Charley Phillips carded 81 to take honors in flight three, and Merle Emery scored low in flight four, with score in the range of 81 also.

August's tournament is set for August 26 at Cedar Hills Golf Course, Lenoir City. Golf carts are available, but cannot be reserved until tee-off times have been assigned on August 26. You may reserve carts after that date by calling Lenoir City 986-9131.

Walt Sherrod and Dick Wyrick took first place honors in the Melton Hill Golf, only one point away from Harold Alvey and Bob Carmack. A challenge match is being called against the South Hills Golf League. Details later.

At South Hills, the Bowers-Rowan team is 15 points ahead of their nearest contender.

The Mee-Wright team has been tied by the Jones-Morgan duo, making the Southwest Point loop a toss-up.

## ALL CARBIDE

N. G. Allman and N. O. Case took the first half of the big Horseshoe League in Oak Ridge. They now lead the Carbiders in the second half as well.

## SOFTBALL—Y-12

Between rains, it is still a race between the Buccaneers and the K-25 Colts for top berth in the Softball League. Both have lost only one game . . . the Bucs have won one more than the Colts, however.

## ORNL—Softball

ORNL Softball League, faced with rain and mud and more rain and mud, has had to cancel several games in the past few weeks. Make-up games will be scheduled and teams notified of the rescheduling.

When all games are made up, a single elimination tournament will be scheduled.

commonly carried on the head and back. He believed much back and disc trouble was due to our "soft" living.

However, Dr. Mark Coventry of the Mayo Clinic and several others believe that the basic cause of disc degeneration is genetic. Some of the apparent decreased incidence of ruptured disc in Africa, India, or Asia may be racial. Considering the commonness of this disorder, it is amazing that careful epidemiological studies have never been done.

Even though early disc degeneration may be an inherited defect, it seems logical that maintenance of good body mechanics would either prevent or delay onset of symptoms. More backaches may be one of the many penalties we pay for our overdependence on machines and our soft living.

## ORNL—Golf

The day was cool, overcast with occasional sprinkles, but 102 ORNL golfers braved the wet grass at Whittle Springs Course to drive in some pretty low scores in the July tournament.

J. T. Barker warmed up the course with his one over par 71. Following him in the seventies were H. G. Davis, 75; Henry Tuck and G. N. Case with 76s; Garry Roberts, J. D. Hudson, John Cornelius, Leo Caldwell and R. C. Bryant with 77s; and Ed Hensley and Benny George with 79s. Other honors went to C. E. Pugh, Frank Hammerling and Bob Toucey in Division II Scratch; John Waggoner, Bill Burch, J. P. Jackson and R. C. Owens in Division II Handicap. Rounding out honors in Division III Scratch were Bob Stone, Gordon Guthrie and Dick Green; and Division III Handicap Joe Knauer, H. G. MacPherson, Bill Vaughn and J. R. Jones.

## ORGDP/ORNL—Bowling

Bowling leagues will begin competition during the first week of September. Openings are available for individuals and teams for both men and women in the ORGDP and ORNL Leagues on both Tuesday and Wednesday nights. If you are interested, contact the Recreation Office.

In team play in the Carbide Family Mixed Bowling League, Oops team members, Edith Duckworth, Elmer Johnson, Tillie Plaza and Charles Lively, have pushed their team way out front. How about it, Pinsetters and Hot Dogs? Can you catch them?

## ORNL—Fishing

ORNL anglers have just finished up to Second Quarter Fishing Rodeo. Bringing in the largest fish in each of the categories were: LeRoy Dutton, largemouth bass; Danny Plaster, smallmouth bass; K. W. Donham, bream; R. G. Shooster, crappie; W. H. Campbell, hybrid and rock fish; P. S. Lee, rough fish (drum); G. E. Pierce, sauger; Jack Banks' son, striped bass; Ray Brashier, trout; Arnold Beets, walleye.

## CARBIDE RIFLEMEN

George Reimann is the top high rifle shooter in Tennessee. This is his third year to hold this distinction. He also won the title in 1966 and 1967. He compiled a total of 970-27x for the two-day event held recently in Oak Ridge.

In team action, a squad of Oak Ridge Sportsmen's Association riflemen composed of Reimann, Don Kiplinger, Jack Mrochek and Larry Weston took first place in the expert civilian class. Their aggregate score was 1878-35x.



"Sorry I'm late. I couldn't get my toothbrush started this morning!"



## Whitfield Is Named Head of Recreation

Meet the new Carbide Recreation Department coordinator. This month E. W. Whitfield Jr., better known as "Whit," assumed responsibility for coordinating and operating the recreation programs at ORNL, Y-12, and ORGDP as well as Clark Center Park.

Whitfield has supervised the ORNL Recreation Program since 1963. From 1950 to 1963 he worked with ORGDP Recreation, ORGDP Personnel and ORNL Personnel. A native of Benton, Tenn., he was a wingback at Tennessee Technological University during his college days and later football coach at Clinton High School before coming to Carbide. He and his wife June and their children, Sonny and Bunny, live in Oak Ridge.

Whitfield's social and civic activities are numerous. He is a past exalted ruler of the Elks (BPOE Lodge No. 1684) and is an officer in the Oak Ridge Chapter of the American Red Cross. He's also an enthusiastic golfer.

If you participate in the Recreation Program you will probably be seeing a lot of Whitfield and his assistant, Emmett Moore, of the Y-12 Recreation Department. (ND News will carry a brief sketch on him in the next issue.)

Harold Mayberry will continue to coordinate recreation activities at the Oak Ridge Gaseous Diffusion Plant. His office is in Building K-1001, telephone extension 3-3017.

What about the Recreation Department plans? Whitfield has plans to consolidate as many activities as possible. He stresses, however, that the new emphasis will be on family participation in the Recreation Program.

"We already," he says, "have some family activities like bowling and fishing and, of course, the Christmas party. We will be making plans for family participation in several other recreational activities."

The consolidated program is underway. Several activities such as the Christmas party, volleyball, table tennis, badminton and horseshoes are already intra-plant activities. Plans are being made for consolidating future softball, for more intra-plant bowling participation as there are openings, and for many other activities. Announcements on these will be made as they are worked out.

## FREEDOM IS . . .

"They say that freedom is a constant struggle," goes the old song. It is. It is also more than that. Freedom is the struggle. It is never achieved except in the effort to reach it." — Wallace Roberts



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## Six Secretaries

(Continued from Page 2)

and Technology Laboratory. After graduating from Tilghman High School, she received her formal secretarial training at Draughon's Business College, and recently took night courses at Paducah Community College, leading up to the Certified Professional Secretary examination. A charter member of the local chapter of NSA, she was chairman of the Future Secretaries Association committee, in which capacity she was responsible for organizing an FSA chapter at Lone Oak High School.

Mrs. Pfost represented the chapter as its first "Secretary of the Year" in 1967 and was named Kentucky's "Secretary of the Year" in 1968.

She is married to 1st Sgt. W. T. Pfost of the Kentucky National Guard. They have three sons, Tom and David Fielder and Michael Jay Pfost, and live in the Hendron Community. In addition to her secretarialship, she is Youth Director of the Bellview Baptist Church.

### Louise D. Rogers

Louise Davis Rogers celebrated her silver anniversary with Union Carbide back in December, and has the distinction of having worked at all three installations in Oak Ridge. She worked in ORGDP first, then transferred to Oak Ridge National Laboratory, and worked for some years in Y-12's Employment Department. She is presently secretary to R. D. Ellingson, in Assembly Operations in Y-12.

Mrs. Rogers worked briefly with Ford, Bacon and Davis before coming with Union Carbide. She lives with her husband, Everett N. Rogers (in Y-12's Mechanical Inspection), at Route 4, Farlow Drive, Concord. She is a graduate of Karns High School, and Gregg Business School in Knoxville, and has also studied secretarial sciences at UT. She enjoys boating, bowling, and being with her family, and is very proud of many nieces and nephews.

## Exciting, Exhausting!

### Washington Workshop Described

(EDITOR'S NOTE: The following article was written by Miss Libby Snyder who, as the Nuclear Division's "Union Carbide Scholar," attended a two-week seminar in Washington, D. C. Miss Snyder is the daughter of Robert R. Snyder, Oak Ridge Gaseous Diffusion Plant.)

By Libby Snyder

Exciting, educational, and exhausting only begin to describe my experiences while attending the Washington Workshops Congressional Seminar in Washington, D. C., held July 18-29. The Congressional Seminar is an intensive study program in American Government. It is an opportunity to view our government in action and to meet personally with national leaders.

For 12 days I lived on the campus of Mount Vernon College with 100 other secondary school students. These students came from over 35 different states, one foreign country, and included Indians, Eskimos, blacks, whites, liberals, conservatives, rich and poor. The diversity among students led to an exchange in ideas which was an education in itself. Despite the many differences, all students had one thing in common: a great interest in politics and government.

### 'On the Firing Line'

Each day from 9 a.m. until 5 p.m. was spent on Capitol Hill where senators, representatives, and various men and women in government addressed the group and answered questions. Our speakers were literally "on the firing line" when the intelligent and often very pointed questions began. Senators Brock, Javits, Humphrey, Gravel, and Symington and Congressmen Ford, Boggs, and McCloskey were only a few of the men in Congress who spoke to the group. We were also privileged to hear the Secretary of Transportation, Volpe, the Assistant Attorney General, Kleindienst, and the Chairman of the Atomic Energy Commission, Dr. Glenn T. Seaborg. Dr. Seaborg spoke on



Libby Snyder

the peaceful uses of atomic energy, and I found him to be one of the most interesting speakers of the Seminar. His retirement was announced coincidentally on the same day that he spoke to our group.

Over 35 different speakers addressed the Seminar group. Other national figures were often seen by chance in the corridors of the Senate Office Buildings, or while waiting for an elevator. I met Senator Muskie on the subway and Secretary of State Rogers on the steps of the Capitol as he waited for his limousine. I shared an elevator with Representative Kuykendall of Tennessee on one occasion and Senator Jackson of Washington on another. Three other students and I were escorted by Senator Symington in the subway, the Senate elevator, and to the crowded Senate gallery for the cloture vote on the Lockheed loan. Almost every senator was on the floor for this important vote, and without Senator Symington we would have never secured seats in the gallery.

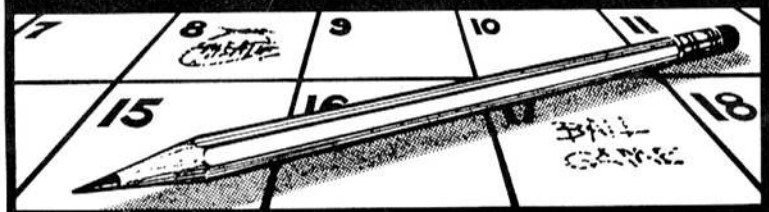
### Other Visits

The Seminar included a visit to the Embassy of Denmark and an evening concert and parade at the Marine barracks. The Tennessee students attending the Seminar were most fortunate to tour the White House on special passes secured on very short notice by Senator Brock. Another highlight of the trip was being treated to lunch at the Capitol Hill Club by Union Carbide.

The Congressional Seminar was an unforgettable experience. It was exciting to watch the government in action and to meet the men that run our government. It was educational to hear elected officials give their opinions on the current issues and to live with 100 very diverse students. It was exhausting to learn so much in such a short span of time. In twelve days I achieved an understanding of our national government that could not be obtained in a classroom or from a textbook.

Three other students attended the Seminar as Union Carbide Scholars. These students became my very best friends and I found they were three of the nicest students in the program. We were unanimous in our praise of the Seminar and our appreciation to Union Carbide for making such an experience possible for us. I can only say thank you to Union Carbide for a learning experience that will never be duplicated or forgotten.

## CALENDAR OF EVENTS



### TECHNICAL

#### August 13

Physics Division Seminar: "Magnetic Moments of 2+ States in Transitional Nuclei," Z. W. Graborski, Purdue University. East Auditorium, Building 4500N, 3 p.m.

#### August 17

Analytical Chemistry Division Seminar: "Venezuela on \$500 a Day," W. J. Ross, Analytical Chemistry Division. East Auditorium, Building 4500N, 3 p.m.

ORAU Medical Division Staff Seminar: "Management of Lymphomas with Irradiation," Dr. Frank Comas, U.T. Memorial Research Hospital, Knoxville. Medical Division Conference Room, East Vance Road, 4 p.m.

#### August 19

Nuclear Safety Program Seminar: "The ASME Quality Assurance Program," J. R. McGuffey, Inspection Engineering Department, ORNL. East Auditorium, Building 4500N, 9:15 a.m.

Molecular Anatomy Program Seminar: "The Standardized Bioassay, Purification and Properties of Human Urinary Colony Stimulating Factor," E. R. Stanley, Cancer Research Unit, The Walter and Eliza Hall Institute of Medi-

cal Research, Royal Melbourne Hospital. East Auditorium, Building 4500N, 2 p.m.

#### August 23

Health Physics Division Seminar: "Life-Span Study, Mortality 1950-1970 of Hiroshima and Nagasaki Nuclear Bomb Survivors," Dr. Seymour Jablon, Chief, Department of Statistics, Atomic Bomb Casualty Commission, National Academy of Sciences - National Research Council, Washington, D.C. Building 4500N, Central Auditorium, 10 a.m.

#### August 25

Metals and Ceramics Division Seminar: "Oxidation of Uranium Alloys," John V. Cathcart. East Auditorium, Building 4500N, 2:30 p.m.

#### September 2

Bimonthly Gas-Cooled Reactor-Thorium Utilization Program Information Meeting: "Loading of Resin-Based Fuel Kernels," Karl J. Notz; "Fuel Stick Fabrication Studies," R. A. Bradley; "Fuel Stick Irradiation Studies," W. P. Eatherly. East Auditorium, Building 4500N, 9 a.m.

#### PADUCAH

Ladies Golf Leagues — August 16 and 23. Annual dinner will be held August 30.

## Several Area Specialists To Attend Radioactive Transporting Symposium

Several Nuclear Division personnel, as well as Atomic Energy Commission employees, will participate in the Third International Symposium on Packaging and Transportation of Radioactive Materials to be held in Richland, Wash., August 16-20.

C. W. Walter, Paducah Plant, will chair the session of "Shipment of UF<sub>6</sub>."

C. E. Newlon, Oak Ridge Gaseous Diffusion Plant, will present a paper, "Nuclear and Radiological Safety Aspects in Transporting Uranium Hexafluoride," he co-authored with R. G. Taylor, also of ORGDP, and W. A. Johnson, AEC.

J. W. Arendt, ORGDP, will deliver a paper on "Engineering and Quality Control Considerations in the Safe and Economical Handling of Uranium Hexafluoride Cylinders."

J. A. Lamb, AEC, will talk on "Economics of Transportation — Uranium Hexafluoride." The paper was co-authored with G. B. Brooks, ORGDP, and A. T. Freeman, Paducah, and W. R. Simpson, Goodyear Atomic Corporation.

B. M. Robinson and H. J. McAlduff, Jr., both of AEC, will have a paper there entitled "Enriching Services Transportation."

An exhibit, which describes safe methods of handling experience encountered when dealing with uranium hexafluoride, will be set up in cooperation with personnel from AEC and other operating contractors. Attending the display to answer technical questions will be J. Dykstra, ORGDP; Newlon; Walter; and V. J. DeVito, GAC. The exhibit was designed by ORGDP's Graphic Arts department.

The sessions will provide timely information, based on experience in the toll enrichment program, where tremendous quantities of UF<sub>6</sub> have been shipped throughout the free world without a major incident. Recommendations, based on reviews of best practices, will be presented to further assist in improving industrial procedures involving nuclear material shipments. With the anticipated rapid growth in civilian nuclear power and its correspondingly great impact on the transportation of nuclear materials, it is felt that the information should be of significant value to the nuclear industry as a whole.

Additional AEC and other contractor personnel will participate in the symposium.

## NUCLEAR DIVISION NEWS



Published Every 3 Weeks For The Employees Of  
UNION CARBIDE CORPORATION  
NUCLEAR DIVISION

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INTERNATIONAL ASSOCIATION OF BUSINESS COMMUNICATORS

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POST OFFICE BOX Y, OAK RIDGE, TENN. 37830